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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	10/604,816	
	Filing Date	08/19/03	
	First Named Inventor	Shi et al.	
	Art Unit	2839	
	Examiner Name	DINH, PHUONG K	
Total Number of Pages in This Submission	14	Attorney Docket Number	

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
SHI ET AL.

Serial No.: 10/604,816

Confirmation No.: 1815

Filed: 08/19/2003

For: CABLE END CONNECTOR AND
METHOD OF ASSEMBLING THE SAMEExaminer:
Dinh, Phuong K

Group Art Unit: 2839

Dated: Aug. 10, 2004

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SUPPLEMENTAL AMENDMENTS/REMARKS

Honorable Commissioner of Patents
P.O. Box 1450
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Commissioner:

This reply is being filed timely in response to the Final Office Action mailed
on May 20, 2004 and the Advisory Action mailed on Jul. 27, 2004, in connection
with the above-captioned application.

Amendments to the claims begin on page 2 of this paper.

Remarks begin on page 7 of this paper.

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PAGE 2/14 * RCVD AT 8/10/2004 10:45:02 PM [Eastern Daylight Time] * SVR:USPTO-EFXXF-1/1 * DNIS:8729306 * CSID:408 919 8353 * DURATION (mm-ss):04:38

PAGE 11/23 * RCVD AT 2/28/2005 5:33:13 PM [Eastern Standard Time] * SVR:USPTO-EFXXF-1/3 * DNIS:8729306 * CSID:408 919 8353 * DURATION (mm-ss):06:30

Amendments to the Claims

Claim 1 (currently amended): A method of assembling an electrical connector and a cable, the connector including an insulative housing defining a plurality of cavities each adapted to receive a corresponding electrical terminal having clasps and a latching member defining channels, the cable including a plurality of wires, the method comprising the steps of:

extending each of the wires of the cable ~~though~~ through a corresponding channel of the latching member;

attaching said each of the wires to a corresponding terminal with the clasps of the terminal being curved to engagingly wrap a part of said each of the wires, the post-curved clasps having a portion to ~~interferentially~~ interferingly engage the latch at said channel thereby preventing the terminal from moving rearwardly;

inserting the terminal into a corresponding cavity of the housing; and

securing the latching member to the housing thereby the post-curved clasps abut against the latch at said channel so as to locate the terminal in the cavity.

Claim 2 (original): The method as claimed in claimed 1, wherein the latching member comprises a base plate, and a plurality of silos extending from the base plate.

Claim 3 (original): The method as claimed in claim 2, wherein the base plate comprises a plurality of latches provided thereon.

Claim 4 (original): The method as claimed in claim 3, wherein the housing comprises a plurality of blocks provided thereon, the blocks engaging with the latches of the latching member.

Claim 5 (original): The method as claimed in claim 2, wherein each of the silos of the latching member is in alignment with a corresponding cavity of the housing and can be inserted into the cavity when the latching member is secured to the housing.

Claim 6 (canceled)

Claim 7 (previously presented): The method as claimed in claim 1, wherein the post-curved clasps cooperatively have a section periphery larger than said opposite end of the channel.

Claim 8 (previously presented): The method as claimed in claim 7, wherein the clasps comprise a pair of clasps clamped an out jacket of said each of the wires.

Claim 9 (previously presented): The method as claimed in claim 8, wherein the terminal further comprises a pair of clips engagingly wrapped a conductor of said each of the wires.

Claim 10 (previously presented): An electrical connector adapted to be connected with a cable, the electrical connector comprising:

an insulative housing defining a plurality of cavities;

a plurality of electrical terminals received in corresponding cavities of the housing, each of the terminals having a connecting portion with at least one clasp adapted to connect to a corresponding wire of the cable before the wire is inserted into a corresponding cavity of the housing;

a latching member attached to the housing, the latching member including a base portion, and a plurality of silos extending from the base portion and inserted into corresponding cavities of the housing; and

wherein each of the silos defines a channel therethrough, the channel

having a diameter slightly greater than a diameter of a corresponding wire to facilitate insertion of the wire therethrough, when the latching member is secured to the housing, said at least one clasp is situated outside a corresponding channel and adjacent the housing and prone to abut against the latching member at one end of the channel to prevent the terminal from escaping from a corresponding cavity of the housing when the terminal is urged rearwardly.

Claim 11 (original): The electrical connector as claimed in claim 10, wherein the housing comprises a base and a plurality of silos extending from the base, and each of the cavities comprises a narrower portion in a corresponding silo and a broader portion in the base, whereby a shoulder is defined where the narrower portion adjoins the broader portion.

Claim 12 (original): The electrical connector as claimed in claim 11, wherein each of the terminals comprises a securing portion having a pair of first spring arms pressing inner walls of a corresponding silo in the narrower portion thereof, and a pair of second spring arms abutting a corresponding shoulder.

Claim 13 (original): The electrical connector as claimed in claim 10, wherein the base portion of the latching member comprises a plurality of latches, and each of the latches engages with a corresponding block provided on the housing.

Claim 14 (previously presented): An electrical connector comprising:

an insulative housing;

a plurality of cavities extending through the housing along a front-to-back direction;

a plurality of terminals received in the corresponding cavities, respectively;

a latching member attached to a rear portion of the housing and including a base with a plurality of silos extending forwardly therefrom into the corresponding cavities, respectively, each of said silos defining an inner channel axially; and

a plurality of wires forwardly extending through the corresponding channels, respectively, each of said wires including an outer jacket and an inner conductor commonly secured to the corresponding one of said terminals; wherein

the housing includes in each of the cavities a portion preventing forward movement of the corresponding terminal, and each of the silos includes another portion to engagingly restrict the corresponding terminal outside a corresponding channel thereby preventing rearward movement of the corresponding terminal.

Claim 15 (original): The electrical connector as claimed in claim 14, wherein each of said terminal includes a connection portion on a rear end section to secure to the inner conductor and the outer jacket of the corresponding terminal, and said connection portion is dimensioned larger than the corresponding channel so that the corresponding terminal can not rearwardly move through said channel.

Claim 16 (original): The electrical connector as claimed in claim 14, wherein each of said terminals are connected to the corresponding wires, respectively, only after the corresponding wires forwardly extend through the corresponding channels, respectively, from a rear face of the latching member.

Claim 17 (original): The electrical connector as claimed in claim 15, wherein prevention of the rearward movement of each of the terminals results from engagement between the connection portion and the corresponding silo.

Claim 18 (previously presented): The electrical connector as claimed in claim 10, wherein said at least one clasp has a section periphery larger than said channel of the latching member.

Claim 19 (previously presented): The electrical connector as claimed in claim 18, wherein said at least one clasp is adapted to clamp an out jacket of the wire.

REMARKS

In the Advisory Action, the Examiner states the amended claim 6 raised the new issue. Applicant has canceled claim 6 accordingly. Thus, the sole rejection reason in the advisory action has been removed.

Applicants respectfully submit that all the pending claims are now in position for allowance, for the following reasons:

Claim objection

Claim 1 is objected to because of the following informalities:

1. claim 1, line 6, "though" should be changed to —through—and
2. claim 1, line 10, "interferentially" should be changed to —interferingly—.

In response, claim 1 has been amended to place it in formal position by changing "though" and "interferentially" into "through" and "interferingly", respectively. Thus, the objections proposed should be withdrawn.

Claim Rejections Under 35 U.S.C. § 112

Claims 1-19 are rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The claims contains subjection matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

More specifically, in claim 1, it is not clear where the support for the recitation "the clasps of the terminal being curved", and "the post-curved clasps having a portion to interferingly engage the latch at said channel thereby preventing the terminal form moving rearwardly" is found in the specification.

Also, in claim 10, it is not clear where the support for the recitation "said at least one clasp is situated outside a corresponding channel and adjacent the housing and prone to abut against the latching member at one end of the channel to

prevent the terminal from escaping from a corresponding cavity of the housing when the terminal is urged rearwardly”.

Additionally, claim 14 has similar recitation.

Accordingly, Examiner has included that new matter is introduced into the application in the previous response filed on April 12, 2004.

In response, Applicants would like to earnestly request Examiner to notice the following clarifications:

The first presumed unsupported matter: “the clasps of the terminal being curved”, is fully supported by the original specification and the original drawings of the present invention, for the following reasons:

In page 7, lines 10-13 of the original specification, it is clearly recited that the first and second clasps 31, 33 are adapted to crimp the wire 50 when the cable 5 is connected with the terminal 3. Furthermore, referring to FIGS. 1 and 5-7, one skilled in the art to which the present invention pertains would clearly have concluded that the first and second clasps 31, 33 of FIG. 1 are crimped or curved to fasten with the cable 5 as shown in FIGS. 5-7.

The second presumed unsupported matter: “the post-curved clasps having a portion to interferingly engage the latch at said channel thereby preventing the terminal from moving rearwardly” is based on the original specification and the original drawings of the present invention, for the following proofs:

As described in original claims 15 and 17, said connection portion is dimensioned larger than the corresponding channel so that the corresponding terminal can not rearwardly move through said channel; prevention of the rearward movement of each of the terminals results from engagement between the connection portion and the corresponding silo. Further, referring to FIG 7, the connection portion of a terminal only has the clasps adapted to engage a

corresponding silo, thereby preventing the terminal from rearwardly moving.

Accordingly, one skilled in the art, having viewed the above, would have been clear that the second presumed new matter is based on the original specification and the drawings of the present invention.

Regarding the third presumed unsupported matter: "said at least one clasp is situated outside a corresponding channel and adjacent the housing and prone to abut against the latching member at one end of the channel to prevent the terminal from escaping from a corresponding cavity of the housing when the terminal is urged rearwardly"

Referring to FIG. 7, the clasp 31 is clearly situated outside a corresponding channel 48 and adjacent the housing 20. Furthermore, for the same reasons clarified above in connection with overcoming the second presumed new matter, "said at least one clasp prone to abut against the latching member at one end of the channel to prevent the terminal from escaping from a corresponding cavity of the housing when the terminal is urged rearwardly" is fully supported by the original specification and the drawings of the present invention.

Accordingly, Applicants respectfully submit that all the presumed new matters are fully supported by the original specification and the drawings of the present invention, and the rejections to claims 1-19 under 35 U.S.C. § 112, first paragraph should be withdrawn.

Claim Rejections Under 35 U.S.C. § 102

Claims 14-17 are rejected under 35 U.S.C. § 102(b) as being anticipated by Dinkel et al. (US Pat. No. 5,643,009, hereinafter, Dinkel)

Regarding claim 14, it, inter alia, recites "a plurality of wires (rather than the associated terminals) forwardly extending through the corresponding channels, respectively" and "each of the silos includes another portion to engagingly restrict

the corresponding terminal outside a corresponding channel thereby preventing rearward movement of the corresponding terminal”.

Applicants respectfully submit that Dinkel fails to show or disclose the above-emphasized features. More specifically, Dinkel only shows in FIGS. 1-11 that the inserted end of the cable (rather than the associated terminal) is received in a corresponding channel 34 of the latching member 30 and stopped at around the one third length of the channel 34 with regard to the insertion side, i.e., NOT through the channel 34, and that the terminal 70 has a front part located outside a corresponding channel 34 of the latching member 30 and a rear section received in the corresponding channel 34 and essentially occupying around two thirds length of the channel 34. That is, the cable itself of Dinkel does NOT extend through the corresponding channel 34 of the latching member 30, and the terminal 70 of Dinkel has a part thereof received in the corresponding channel 34.

It is, therefore, earnestly submitted that Dinkel fails to show or disclose all the limitations of claim 14, and that claim 14 should be allowed.

Claims 15-17 are directly or indirectly dependent on claim 14 and should be allowed. Moreover, claim 16 states that the terminals are respectively connected to the corresponding wires only after the corresponding wires have extended through the corresponding channels. Differently, in Dinkel the terminals have already assembled to the corresponding wires and then the terminals with the associated wires commonly are inserted into the corresponding channels. Accordingly, claim 16 has its own patentability in comparison with Dinkel.

Claim Rejections Under 35 U.S.C. § 103

Claims 1-11, 13, 18 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Dinkel in view of Yamanashi et al. (US Pat. No. 5,183,418, hereinafter, Yamanashi)

Firstly, if the latching member restricting the terminal clasps as taught by Yamanashi is modified to combine with the connector of Dinkel, the terminal 70 can not be securely located in a corresponding contact receiving passageway 16 of the connector 10 of Dinkel. That changes the invention spirit of Dinkel, even directly brings the risk of inoperation of the post-combined connector as proposed.

More specifically, as taught by Dinkel, when the pivot housing 30 fully mates with the main housing 12, the resilient fingers 44 are prevented from deflecting outwardly by the contact receiving passageway 16. Thereby, it is impossible for the wider portions 79a and 79b to move through the latching fingers 44 past the protrusion 46. As a result, the contact 70 is fully secured within the passageway 16 and is prevented from moving either forwardly or rearwardly (col. 4, ll. 23 to 26 and 48 to 54). That is, after mating the main housing 12 of Dinkel with the pivot lock housing 30, engagement of the protrusion 46 with the wider portion 79a and 79b plays the role of preventing the contact 70 from moving forwardly and rearwardly. When the connector 10 of Dinkel is modified and the latching member of Yamanashi is provided to combine with the modified connector, the contact 70 of Dinkel has only the rear end thereof abutted by the latching member of Yamanashi. That is, the contact 70 can freely and forwardly move in the contact receiving passageway 16. What this combination results in goes away from the spirit of Dinkel and this combination renders the post-combined connector inferior, even inoperative and hence is unreasonable.

Regarding claim 1, even though the latching member of Yamanashi can be qualified to be provided to combine with the modified connector, said combination does not show all the features of claim 1. More specifically, as recited in claim 1, the wires of the cable are extended through corresponding channels of the latching member, and corresponding terminals are attached to said wires. That means that the wires of the cable are firstly extended through corresponding

channels of the latching member, and then attached to corresponding terminals. However, in said combination, nothing is disclosed or taught to show or suggest that feature. Rather, it is clearly shown in FIGS. 9-11 Dinkel and FIGS. 1-4 of Yamanashi that the wires of the cable are never extended through a corresponding contact receiving passageway 16 of the pivot lock housing 30 of Dinkel or a corresponding insertion hole 4a of the latching member of Yamanashi before the cable is attached to a corresponding contact.

Regarding to claim 10, since the latching member of Yamanashi is provided to take the place of the latching means of Dinkel. Further, the latching member of Yamanashi only has upper and lower locking pieces 5 opposite to each other. This configuration is absolutely unlike the silos recited in claim 10. That is, said combination fails to show the configuration of the silo of claim 10, needless to say the channel defined through the silo. It is, therefore, respectfully submitted that said combination does not show all the features of claim 10.

Regarding claim 14, for the same reasons in connection with claim 10, said combination fails to show the silo of claim 14, much less to show the inner channel of the silo of claim 14.

In view of the above, Applicants respectfully submits that claims 1, 10 and 14 are defined patentably over the cited references and should be allowed.

Claims 2-5, 7-9, 11-13 and 18-19 are respectively dependent claims 1, 10 and 14 and should be allowed.

Additionally, Applicants have checked all the other cited references, but respectfully conclude that all the pending claims are also defined patentably over them.

Conclusion

For all the above reasons, Applicants assert that all the pending claims are now in

proper form and are patentably distinguishable from the prior art. Therefore, Applicants submit that this application is now in condition for allowance, and that an action to this effect is earnestly requested.

Respectfully submitted,

SHI ET AL.

By 

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